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"Impressions" of the Eleventh International Veterinary Congress.

By Dr. D. M. Campbell, Editor "Veterinary Medicine," Chicago.

I have been asked to write, for the *Veterinary Record*, my impressions of the London Congress. I am very glad to attempt this, for the reason that it gives me an opportunity to express my great appreciation of the splendid work of the Organising Committee, which not only contributed materially to making the Congress the outstanding success that it was, but was, in no small degree, instrumental in making the visitors' attendance at the Congress profitable and their stay in London genuinely interesting and wholly pleasant.

Since the task of mentioning the multitudinous commendable things about the general management of the Congress is an insuperable one, perhaps to mention the few and minor things that it seemed, to at least one visitor, might have been changed with advantage, will sufficiently emphasise the good management on the whole and possibly be of some value to the Organising Committees of future Congresses.

1. The Secretary's office could, with advantage, have been more conveniently located and kept open continuously throughout the day during the whole Congress. It is a mistake to assume that all will read bulletin announcements, or announcements in the programme, or that they will hear, or always understand if they do hear, announcements from the platform. There needs be a convenient, authoritative source of information always available, or many will miss things and be put to annoyance and inconvenience.

2. Monday of the week of the Congress was too early to close the lists on the official dinner. It prevented many who were very desirous of going, from obtaining tickets. It is the universal practice in America for the lists for such affairs to be held open till 1 p.m. or later of the day of the dinner, and it is believed such practice offers no serious difficulty to the caterer. Also, since they could not be sent to all, or delivered if posted, it worked out unfortunately that any special invitations to the President's reception and to the conversaziones were sent. Some not receiving invitations assumed they were not invited.

3. Better order should have been maintained in the sessions, particularly in the section meetings. Where a majority in any audience do not understand what is being said, the tendency to conversation among pairs or groups is very strong, and it requires the constant attention and frequent admonition of the chairman to maintain a degree of quiet on the part of the whole audience that will enable those who desire to do so, to hear the speaker. The confusion was particularly noticeable while the interpretations were being rendered. In a number of instances, I was unable to make anything of the interpreter's translation, principally because of conversation going on about me.

4. Professional interpreters, however skilled in languages, are not an entire success for technical discussions. In some of the section meetings, veterinary interpreters were used and the improvement was marked. Doctor Eichhorn, who speaks each of the official languages of the Congress with equal facility, repeatedly mentioned to me, while interpretations were being given, that the interpreter had missed entirely the point that the speaker had particularly wished to make. I believe veterinary translators could have been found readily for all discussions.

The Programme.

As for the programme of the Congress, it was wonderful. The great number of reporters, the larger number who participated in the discussions, the variety of subjects considered and the discussions from representatives of two or more nations on each subject, combined to make it a programme at once varied and comprehensive; the high standing of those contributing to the deliberations of the Congress and the high plane of their contributions made it a programme at all times informative.

No impressions of the programme in detail would seem in order, but on a few outstanding subjects and on some of which conditions in America seem to contrast rather strongly with those elsewhere, some comment may be permitted.

BOVINE MASTITIS.

The most striking feature in connection with the discussion of this ailment was its world-wide prevalence. Klimmer of Germany, Minett of England, Steck of Switzerland, Begg of Scotland, Seddon of Australia, Reid of New Zealand, Oijen of Holland, and others from various countries testified not only to the prevalence of mastitis in their respective localities, but to its great economic importance as well, and there seemed a general agreement that effective methods for prevention were unknown and its treatment unsatisfactory.

It would appear that mastitis now occupies somewhat the position that milk fever did 35 years ago, when it threatened the further improvement of dairy strains by selecting for destruction the best individuals. So now, unless the problem of mastitis can be handled more effectively, it must prove a severe handicap on further increasing the production of our best strains of dairy animals.

Strangely enough, only Steck and Oijen mentioned a prevention of mastitis that has been rather widely used by American veterinarians for a number of years, and these speakers referred to it only incidentally; that is, they stated the importance of milk stasis as a cause of mastitis. The frequent milking (three or four times daily) of cows that are very high producers is a common practice in this country and believed by many veterinary practitioners to contribute

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not a little to the prevention of mastitis. Whether this is due to the " anti-bacterial power " of milk, that is that faculty in milk that inhibits the development of most bacteria for four to six hours after it is secreted, as Professor Oijen believes, or whether it is due to less mechanical injury from overfilling the udder, American practitioners have not evinced much concern. Sufficient for them, or many of them, is the apparent fact that results following this practice are desirable.

Infectious Abortion.

It seemed evident from the discussion that infectious abortion of cattle is less common elsewhere than in the United States. The reason for this is not apparent and it would seem, since this infection exists almost everywhere, that other countries may reasonably expect to suffer an increasing annual loss from this disease.

Unlike some other diseases which have been successfully eradicated from our country, infectious abortion seems, from our limited experience, to be a disease that must be handled by the veterinary practitioner rather than by state and federal live stock sanitary authorities. The results of such control measures as have been adopted in the United States and Canada have been encouraging, but we realise that the problem is a long way from being solved.

Foot-and-Mouth Disease.

It was a surprise to hear foot-and-mouth disease discussed in such a matter of fact manner. A report of an outbreak of that disease in our country is always the occasion of great excitement. If an exchange in diseases were a part of international commerce, we should be quite content with our disproportionate amount of infectious abortion in exchange for our immunity from foot-and-mouth disease.

Tuberculosis of Cattle.

The discussion of bovine tuberculosis was confined to B.C.G. vaccination, and this is a subject in which veterinarians of North America have an academic interest only. It was interesting, however, to sit by as observers and hear others bring up questions that were settled with us several years ago, and make statements that were heard frequently in our country a decade ago but have since been shown to be without foundation.

It was stated by one speaker that the slaughter method of eradicating tuberculosis is unnecessarily expensive, whereas experience has shown in this country, where more than 60,000,000 official tuberculin tests have been made, that the incidental advantages—the " by products " of tuberculosis eradication—pay all the cost and the elimination of the disease is just a net gain and a large one, both economically and from a public health point of view.

Again, another speaker stated that the eradication of tuberculosis in Europe, where surely 30 per cent. of the dairy animals must be infected, and in Canada where only 6 per cent. are infected, and in the United States where only 3 per cent. are infected (the average infection in the United States is now less than 2 per cent.), was an entirely different matter.

Such statements show an astonishing unfamiliarity with the subject, on which literally volumes of scientific and official information are available. Tuberculosis has been eradicated in the United States from many districts in which the infection approached and even exceeded the high percentage given for Europe, and, without any exception, the greater the amount of infection in a district, the greater have been the economic profits from its eradication.

The statement by Mr. Gofton, I think it was, implying that there was little encouragement to dairymen in Scotland to eradicate tuberculosis from their herds because there was little inclination on the part of the public to pay a higher price for milk from tuberculosis free herds, shows another misapprehension of the effects of tuberculosis eradication.

Dairymen do not need and should not receive a higher price for tuberculosis free milk. Freeing their herds from tuberculosis enables them to produce milk at a lower cost and, at the same time, where the matter is properly handled, largely increases the consumption of milk, and thus the dairyman who frees his animals from tuberculosis has a better market for a far larger quantity of a product that costs him less to produce. It will be most unfortunate if the public gets the impression that the eradication of bovine tuberculosis is going to make milk cost it more.

Again, the old scare of a milk famine is brought up. We used to hear that so much. " If all the infected animals are eliminated from a district it will decrease the milk supply by just that amount and cause a milk famine that will result in an increased death rate of children, increased incidence of rickets and divers dire and terrible things." Experience has shown that these things do not occur. In the first place, the elimination of tuberculosis of animals from any considerable area does not happen all at once. It requires a matter of years, and with the elimination of the tuberculous animals, there is also eliminated a very considerable portion of the dairyman's unprofitable cows. The quantity of feed remains the same, and the inevitable result is that these unprofitable cows are in part supplanted as the elimination proceeds by better producers, and when the elimination of the disease from the district is complete, there is invariably an increased production of milk in that district, and greater prosperity for the dairyman.

This has happened too often to permit anyone to say that it was an exceptional condition. It is a regular sequel to tuberculosis eradication and the increased demand for milk on the part of the public that accompanies it.

However, it would be as rash for me to say that the methods of tuberculosis eradication that have proved so conspicuously successful in North America would succeed in Europe, as it was for the French to say that these methods are unnecessarily expensive or the British to say that they would not work because Europe has, on the average, more tuberculosis than the United States and Canada and when the eradication of this disease began.

There are probably angles to disease eradication in any country of which those of another country know nothing. The tuberculin testing of all dairy animals and the prompt slaughter of all reactors might not work in Europe as it has in America, but, judging from our experience, it would not be for either of the reasons stated—that is, that it is too expensive or there are too many infected animals. As a guess, I should be inclined to say that if the method would not work as successfully, the cause would more likely be lack of support of public health authorities and the failure to get over the message of its economic benefit to the live stock industry in a convincing manner.

As for B.C.G., I do not see how anyone could reach a conclusion, from the contradictory evidence presented, as to whether it is effective or not, but, speaking I think for the United States and Canadian veterinarians, we want none of it. We have had experience with the control of swine fever. We prefer eradication to control, even though the control measure is, as in the case of swine fever, practically 100 per cent. effective.

Swine Fever.

Two weeks following the Congress spent in various parts of England and Scotland showed me why British veterinarians are but slightly interested in swine fever. If it affected sheep, you might be as concerned about it as American veterinarians are, but with the comparatively small number of hogs in the Islands, it obviously is no great problem to you.

It was astonishing, however, and somewhat amusing, to hear some of the Continental veterinarians discuss this problem. Regardless of the fact that veterinarians from Germany were calling this disease by various names, particularly swine erysipelas, the evidence from their discussions seemed overwhelming that swine fever is widely distributed in Germany and, with their present methods of control, the prophecy seems justified that they will speedily have much more of it.

The problems they were discussing in the control of swine fever and the questions they brought up about the use of the serum simultaneous vaccination were the same ones we were struggling with fifteen and more years ago. It was surprising to hear Gerlach (Austria), for example, and others, too, say that the serum simultaneous vaccination for the prevention of swine fever was not recommended because they did not know enough about it. This preventive of swine fever has been used on some hundreds of millions of animals. It is inconceivable that a new experience with it can be experienced by anyone. Thousands of pages of information on the subject are available.

Rabies.

The success of Great Britain and the Scandinavian countries in eradicating rabies and keeping their countries free of it has led me to think that sanitary police measures must be easier of enforcement in Europe than in our country; but the statements of Italian and other veterinarians concerning the difficulty of enforcing these measures and the reliance they must place upon anti-rabic vaccine lead me to think that the attitude of dog owners towards restrictions on their pets must be pretty much the same the world over, and I now have an even greater regard for the achievement in those countries where the unnecessary, expensive nuisance that rabies is anywhere, is not allowed to exist.

A correspondent writes to *The Times*:—Professor R. C. Punnett, F.R.S., of Cambridge, whose services to the poultry industry include the discovery of sex-linkage in first crosses and the creation of a fixed breed carrying sex-linkage, has found a clear sex-linked down character in ducks, and it is hoped that it may be possible to develop this character within the next few years to an extent that will constitute a great economic advance for breeders of commercial egg ducks.

The Dentition of the Pig.*

By Principal O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh.

Apart altogether from the normal physiological use to which they are put, and because of the employment of the state of the teeth as indicative of age, the dentition of domestic animals must always be of interest to the breeder and exhibitor.

The complete adult dentition of the pig consists of forty-four teeth grouped as follows: 3 incisors, 1 canine, 4 premolars, and 3 molars, on each side, above and below. The incisors of the upper and lower jaw differ considerably, as may be gathered from the accompanying diagram (Fig. 1). In addition to the differences in shape, the upper and lower incisors are grouped differently, the upper being separated from each other by spaces, while the lower teeth are close together. Most conveniently—and technically—the incisors are named numerically:

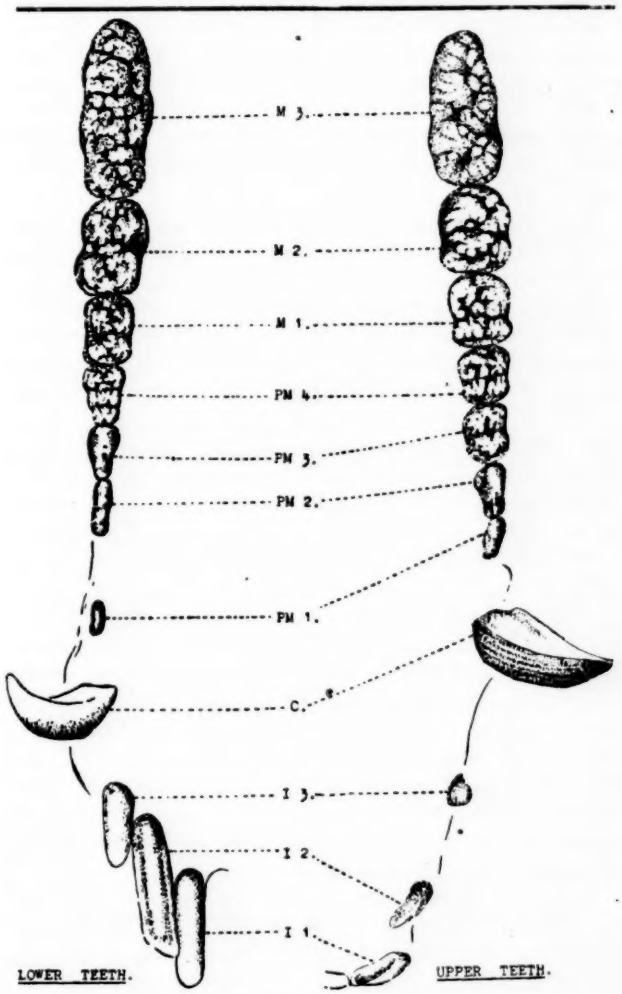

Fig. 1.—*Diagram of the unworn teeth of the pig.*

I 1, "Central" incisor; I 2, "lateral" incisor; I 3, "corner" incisor; C, canine (tusk); PM 1, PM 2, PM 3, PM 4, first, second, third, and fourth premolars; M 1, M 2, M 3, first, second, and third molars.

* Reprinted from the *Transactions of the Highland and Agricultural Society of Scotland*, 1930.

first, second, and third, beginning with that nearest the middle line of the head. Commonly, however, the first is known as the *central* incisor, the second as the *lateral*, and the third as the *corner* tooth.

For the purposes of these notes the canines demand no comment beyond the reminder that they are better developed in the male than in the female; a difference dependent upon the circumstances that these teeth are not constructed as organs of mastication but as weapons of offence and defence.

Concerning the premolars and molars, it is unfortunate that in many books no distinction is made between them: they are lumped together as "molars," the first, perhaps, being specially designated the "premolar tooth." If a comprehensive general term is needed—and certainly one is very convenient—it would be better to call them "cheek teeth." Mere convenience, however, should give way to precision, and the claims of precision are strengthened by the fact that the real molars—that is, the last three teeth on each side, above and below—are not represented in the deciduous ("milk" or temporary) dentition, and consequently do not make their appearance until the pig is several months old. The second, third and fourth premolars, on the other hand, have predecessors in the "milk" dentition, these being cut during the first few weeks after birth, to be shed and succeeded by permanent teeth somewhere about the age of twelve months or shortly thereafter.

The first premolar in many—it might perhaps be said in most—mammals is of great interest to the comparative anatomist, because of its inconsistency in Mammalia generally, and the frequency with which it fails to have a predecessor in the temporary dentition of those animals in which it usually occurs. The pig is one of the mammals in which a deciduous first premolar does not occur; and, as will be shown later, the presence of a permanent lower first premolar is by no means constant. When the tooth is present in the lower jaw it dissociates itself from the other cheek teeth, and occupies a position about the middle of the gap between the canine and the second premolar.

The cheek teeth taken together exhibit remarkable differences in size, shape, and complexity of their crowns. The first is the smallest and relatively very simple in form: the last is the largest and has a crown that, when unworn, is crowded with small rounded tubercles or cusps. From the second tooth to the last the number of tubercles and the complexity of their arrangement gradually increases, and a casual inspection might easily lead to the conclusion that the arrangement of the cusps is haphazard. More careful examination, however, reveals a definite and regular grouping, which becomes more obvious as friction obliterates the highest of the projections.

However interesting the teeth of the pig may be to the comparative anatomist, the breeder and exhibitor regards them from their ability—within limits—to indicate the age of the possessor. Tables to show the age at which the individual teeth are cut have been constructed from time to time, but there is evidently a growing doubt whether dentition tables framed years ago are safe guides nowadays when breeding and feeding practices have changed and earlier and still earlier maturity is sought. There are those who hold at least a suspicion that early maturity may be associated with the earlier eruption, and perhaps also with more rapid growth of the teeth. And doubt is not stilled when two authorities writing in the English language—one British and the other American—are not in entire agreement. In this country, for many years, the pamphlet by the late Sir George T. Brown has been accepted as a guide. More recently an American textbook on Anatomy (by Sisson) has appeared, and therein is given a dentition table that we may assume indicates the times of appearance and change of the teeth of American pigs.

Unfortunately, Brown[1] did not reduce his notes to actual tabular form, and it is none too easy to do this for him. An endeavour, however, is here made to do so, short quotations from the author's text being given in brackets wherever it is considered that these will assist the reader.

BROWN:—

i 1.	1 month ("... above the gum ...").
	2 months ("... fully developed ...").
i 2.	2 months ("... signs of erupting ...").
	3 months ("... nearly level" with i 1).
i 3.	Before birth.
c.	Before birth.
pm 2.	1 month ("... just appearing through the gum. . .").
	2 months ("... nearly level with" pm 3).
pm 3.	1 month ("... well up ...").
pm 4.	1 month ("... well up ...").
I 1.	12 months.
I 2.	17 to 18 months ("... in forward animals ... In many animals the temporary teeth remain up to the age of 18 months").
I 3.	7 to 8 months ("... their points through the gum at seven months but in many cases the temporary organs remain until the animal has reached the age of eight months").
C.	9 months ("... may be through the gum in very forward animals at this age" ... "as a rule, the pig at the age of nine months has one or two of the temporary tusks still in position").
PM 1.	5 months ("... evident signs of cutting ...").
PM 2.	12 months ("... shortly after ...") to 15 months.
PM 3.	("... fall irregularly ... very regular in their development ...").
PM 4.	
M 1.	5 months ("... remarkably regular ...").
M 2.	10 to 12 months ("... its perfect eruption may be taken as evidence that the pig has reached the age of one year").
M 3.	17 to 18 months.

Sisson[2] is more considerate and gives a definite table, which is here reproduced for comparison.

SISSON:—

i 1.		2 to 4 weeks.
i 2.	Upper.	2 to 3 months.
	Lower.	1½ to 2 months.

[1] "Dentition as indicative of the Age of Animals of the Farm." By Professor Sir George T. Brown. 7th edition, 1920, pp. 51-61.

[2] "The Anatomy of the Domestic Animals." By Septimus Sisson. 2nd edition, 1914, p. 481.

i 3.		Before birth.
c.		Before birth.
pm 2.		5 to 7 weeks.
pm 3.	Upper.	4 to 8 days.
pm 4.	Lower.	2 to 4 weeks.
I 1.		12 months.
I 2.		16 to 20 months.
I 3.		8 to 10 months.
C.		9 to 10 months.
PM 1.		5 months.
PM 2.		
PM 3.		12 to 15 months.
PM 4.		
M 1.		4 to 6 months.
M 2.		8 to 12 months.
M 3.		18 to 20 months.

The writer of the present notes has found that a comparison of the above tables is made easier if a graphic method is employed. In the accompanying charts (Figs. 2 and 3) the times of eruption of the individual deciduous

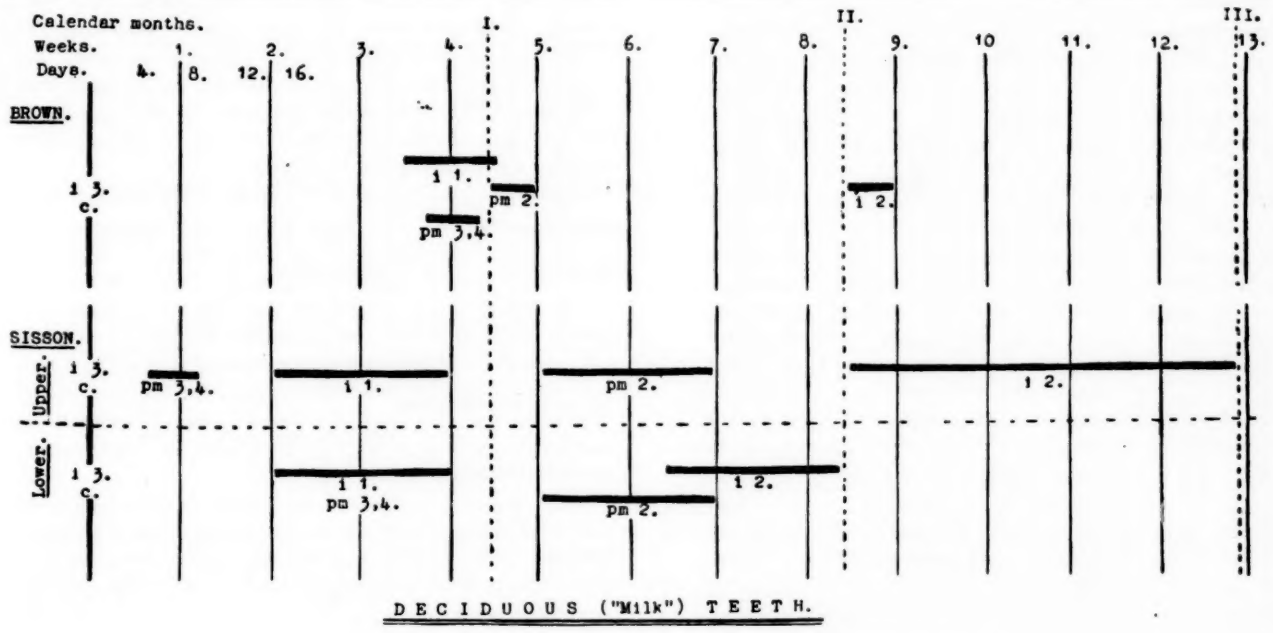

Fig.2.—*Chart of the periods of eruption of the deciduous teeth of the pig.*

i 1, i 2, i 3, first, second, and third incisors; c, canine; pm 2, pm 3, pm 4, second, third, and fourth premolars.

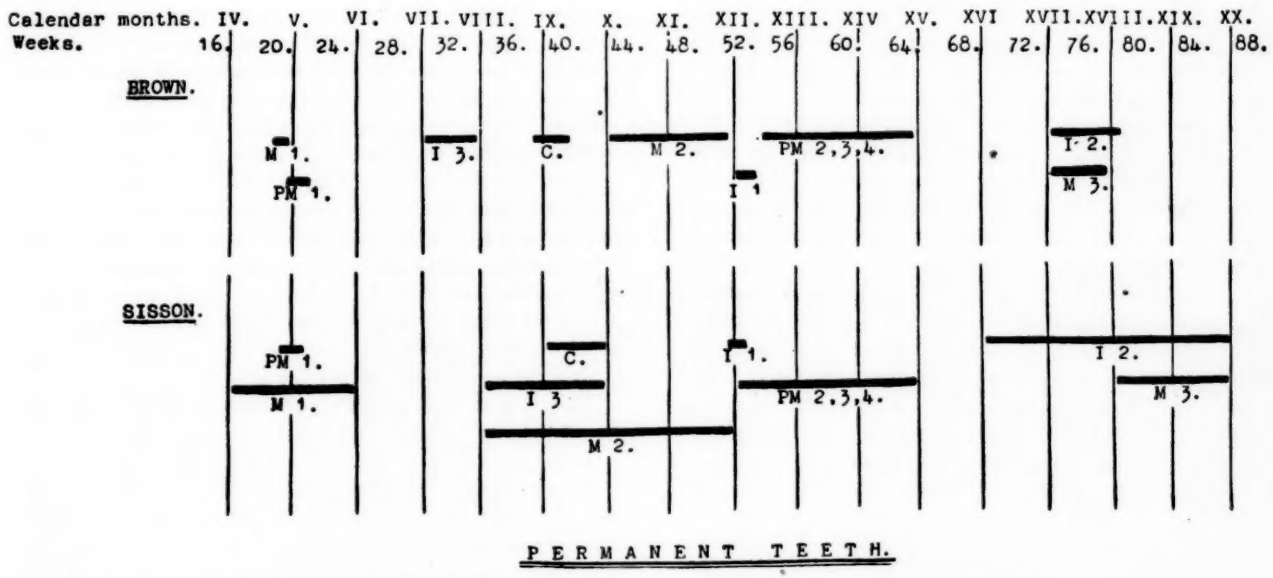

Fig. 3.—*Chart of the periods of eruption of the permanent teeth of the pig.*

I 1, I 2, I 3, first, second, and third incisors; C, canine; PM 1, PM 2, PM 3, PM 4, first, second, third, and fourth premolars; M 1, M 2, M 3, first, second, and third molars.

and permanent teeth as stated by Brown and Sisson have been plotted along parallel lines, and it is probably unnecessary to enter upon a detailed discussion of the points of difference between these two authorities: it is hoped that they have been made apparent at a glance.

It is interesting to note that the leading Continental authorities on the anatomy of the domestic animals furnish a dentition table in which there are further differences. Ellenberger and Baum,[1] basing their statements on a dissertation by Engelberg,[2] divide pigs into three groups according as the dentition is early, medium, or late, as follows:—

Ellenberger and Baum:—

	Early.	Medium.	Late.
i 1. Upper.	2 to 21 days.	3 to 4 weeks.	5 weeks.
Lower.	1 to 14 days.		
i 2. Upper.	7 weeks.	12 weeks.	17 weeks.
Lower.	6 weeks.	8 weeks.	10 weeks.
i 3.	Before birth.		
c.	Before birth.		
pm 2.	7 weeks.	8 to 9 weeks.	10 weeks.
pm 3. Upper.	4 days.	8 days.	21 days.
Lower.	7 days.	3 to 4 weeks.	5 weeks.
pm 4. Upper.	4 days.	8 days.	30 days.
Lower.	2 weeks.	3 to 4 weeks.	7 weeks.
I 1.	11 months.	12 months.	14 months.
I 2. Upper.	16 months.	18 months.	20 months.
Lower.	16 months.	17 months.	18 months.
I 3.	6 to 8 months.	9 months.	10 months.
C.	6 months.	9 months.	10 months.
PM 1.	3½ months.	5 months.	6½ months.
PM 2.	12 months.	14 to 15 months.	16 months.
PM 3.	12 months.	13 to 14 months.	16 months.
PM 4.	12 months.	13 to 14 months.	16 months.
M 1.	4 months.	5 months.	6 months.
M 2.	7 to 8 months.	9 to 10 months.	12 to 13 months.
M 3.	17 months.	18 to 19 months.	20 to 22 months.

If correspondence is to be taken as an index, the doubt respecting the reliability of current dentition tables, to which passing reference has already been made, is widespread and growing; and consequently it was decided that a review of the question was desirable and ought to be made.

Obviously, the ideal method of studying dentition is to examine a large collection of living animals at definite intervals from the time of birth to the time when the last permament tooth is cut. Equally obviously such a method is not practicable unless unlimited time and facilities are available. Instead of examining the same animals periodically, another method—that employed by Sir George Brown—is possible—namely, the examination of pigs at shows and elsewhere, notes, and if possible, drawings, being made at the time of examination. Admirable though it is, this method has its weaknesses. In the first place, reliance has to be placed on the statement of the breeder or exhibitor, who may or may not have a definite and precise record of the day of birth, and who may or may not be concerned more with a desire to convince than to disclose cold facts. In the second place, the personal factor inevitably enters into the making of notes and drawings, however determined one may be to avoid it.

When the present inquiry was entered upon it was decided that neither of the foregoing methods should be adopted, but that photographic records should be made of as many prepared specimens as possible, the great advantage of this procedure being that both specimens and photographs may be consulted and reconsulted as often as wished. At the time of writing about 450 heads have been collected. All of them are from either pure-bred animals or from first crosses. A few of them are from pedigree animals, but most of them are the heads of what may be called the ordinary commercial pig. If it should be objected that pedigree and non-pedigree animals may attain maturity at different ages, the reply is that everyone is seeking early maturity for bacon-making purposes.

Clearly 450 is far too small a number upon which to base definite conclusions, and these notes consequently are not intended to be anything more than introductory. They are to be taken merely as an indication of what is being done and as containing a suggestion that some modification of current dentition tables may ultimately be found necessary. And, though it should not be necessary, it may be added that the investigation now being carried out was not entered upon with the idea that the tables must of necessity be wrong; its purpose is either modification or confirmation, as revealed facts may direct.

As it happens, a considerable number of the specimens already collected are from animals ranging from the 16th to the 40th week (roughly, four to nine months) after birth, a period during which, according to accepted statements, four permanent teeth (namely, the third or "corner" incisor, the canine, the first premolar, and the first molar) should be cut. In this category 176 specimens have already been prepared, photographed, and compared, with results that will be summarised as briefly as possible. A chart (Fig. 4) has been constructed showing the periods during which the four above-mentioned teeth are appearing in the upper and lower jaws of the Edinburgh specimens; and below this, for comparison, are added those parts of Figs. 2 and 3 (Brown and Sisson) that are relevant, as well as a chart similarly made by a combination of the early, medium, and late periods as stated by Ellenberger and Baum.

Third (Corner) Incisor (I 3). In the Edinburgh collection this tooth first appears in specimens from pigs 27⅐ weeks old, and, so far as material permits of a conclusion, apparently erupts notably earlier in the lower than in the upper jaw of the same animal. Indeed, very seldom has it been found that the eruption of the upper and lower teeth is synchronous; and in only one specimen is the upper tooth present in the absence of the lower.

Comparison with Brown's and Sisson's tables shows that the Edinburgh specimens suggest the possibility of earlier eruption of this tooth than at the time given by either of these authorities. Our specimens rather lend support to the periods of eruption as stated by Ellenberger and Baum. Unfortunately material available at the time of writing does not permit the end of the eruption period to be given with assurance; but there is strong probability that it is somewhere in the neighbourhood of 10 months, in accordance with the statements of other observers.

1 "Handbuch der vergleichenden Anatomie der Haustiere." Von Wilhelm Ellenberger und Hermann Baum. 16te Aufl., 1926, pp. 202-203.

2 Engelberg, K. "Altersbestimmung des Schweines." Diss., Leipzig, 1917.

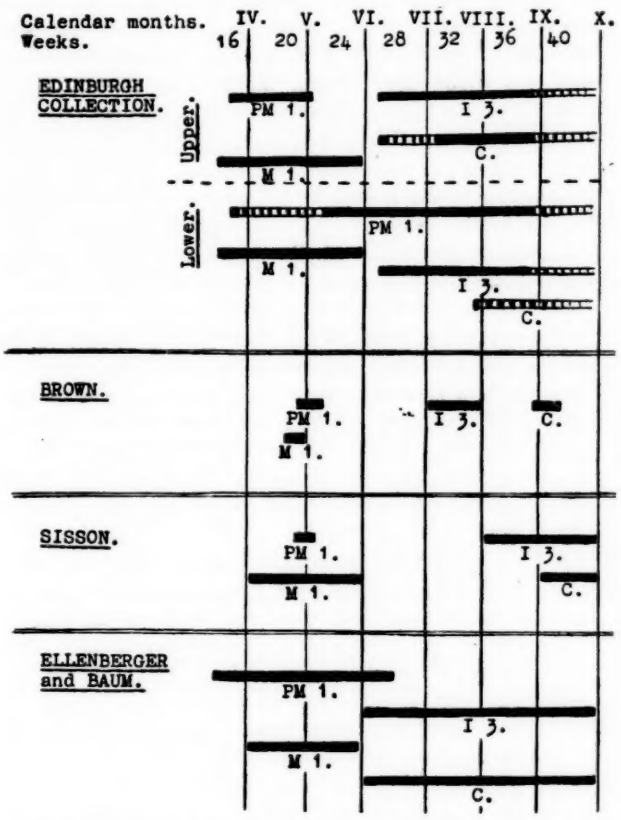

Fig. 4.—*Chart to show the period of eruption of the third incisor, canine, first premolar, and first molar in the Edinburgh specimens, as compared with the corresponding periods as stated by other observers.*

Canine (*C*).—The youngest specimen in which the upper tusk is being cut is 27$\frac{1}{7}$ weeks old, while the youngest specimen showing eruption of the lower tooth is 34 weeks old. These, so far, are both isolated instances of early eruption, and therefore are only of value as showing what may be the earliest date. Upper canines begin to make a more regular appearance during the 32nd week. Nothing can, as yet, be said of the latest date at which the upper tusk is cut. Nor can anything be stated concerning the lower tooth, except that, apart from the isolated specimen mentioned above, no specimen younger than 40 weeks shows any certain sign of change.

Clearly eruption of the canine tooth is much earlier in the upper than in the lower jaw, and it seems probable that existing British dentition tables require emendation in respect of this tooth.

First Premolar (*PM* 1).—Of the four teeth at present being considered, it is evident that the *upper* first premolar has the shortest period of eruption. The youngest specimen in which eruption has been observed was aged 16$\frac{4}{7}$ weeks, and the oldest 22 weeks. Basing a hazardous conclusion on the material so far examined, it may be said that the period of eruption of this tooth covers about six weeks—from slightly less than four to slightly more than five months of age.

Obviously the *lower* first premolar is of little, if any, value as an indicator of age. A single isolated specimen of the age of 16$\frac{4}{7}$ weeks has the tooth in process of eruption, but the next oldest specimen to possess the tooth is 23$\frac{1}{7}$ weeks old. From this age onwards to 40 weeks (and most probably beyond) eruption may occur apparently at any time. Moreover, we know that the lowest first premolar may be absent from the adult dentition.

First Molar (*M* 1).—The Edinburgh specimens show that the first molar may erupt at any time from 15 to 26 weeks, a period very nearly the same as that given by Sisson and Ellenberger and Baum (4 to 6 months). Brown was evidently well justified in claiming that the appearance of this tooth is " remarkably regular."

In the foregoing analysis no mention is made of the possible factors, breed and diet. Information on these has, however, been collected, and their influence (if any) will be disclosed later.

Little difficulty is being experienced in obtaining material of the ages at which pigs are usually killed for bacon-making, but it is evident that there will be considerable trouble in getting a sufficiency of specimens to illustrate the state of the dentition beyond the age of about nine months. And it may be frankly confessed that the premature publication of notes of observations made up to the present is mainly for the purpose of enlisting the active sympathy of breeders, without which the investigation is bound to be very slow.

Acknowledgments.

This inquiry was begun under the auspices of the since-deceased Scottish National Association of Pig Breeders, and the initial expenses were covered by grants made by the Highland and Agricultural Society and the National Pig Breeders' Association. Later grants have been made through the Department of Agriculture for Scotland.

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Tuberculin Test " Record " in the States.

In May last the campaign for systematic eradication of bovine tuberculosis from the United States reached its highest rate of progress in the 13 years it has been under way. In that month, 1,317,469 cattle were tuberculin-tested by federal, state and county veterinarians working co-operatively. This is about 100,000 more than the highest number tested in any previous month, according to Dr. A. E. Wight, chief of the Tuberculosis Eradication Division, U.S. Bureau of Animal Industry. These cattle were distributed among 112,973 herds or lots in practically all the states.

The largest contributions to the total of animals tested were made by New York, with 160,115 cattle; Illinois, with 130,167; Wisconsin, with 124,507; Minnesota, with 114,344; and Iowa, with 108,303. Slightly more than 1·4 per cent. of the cattle tested in May reacted to the test. At the end of May, there were more than 2,000,000 cattle on the waiting list to be tested.

The Influence of Lactation on Ovulation and Œstrus.*

By J. T. Cunningham, M.A., F.L.S.

According to Crew and Mirskaia[1] œstrus and ovulation occur in the mouse within twenty-four hours of parturition, and if no fertilization then takes place there is no second œstrus for an interval of twenty to twenty-five days, which is the normal duration of lactation. This interval, called the lactation interval, cannot be appreciably lengthened by prolonging the actual lactation by means of supplying new litters of young, but on the other hand, if the original litter is removed at a shorter interval—for example, seven or fourteen days after birth—œstrus recurs on the second to fourth day after such removal. They state that, according to the evidence of experiment, lactation causes the corpora lutea of the first post-partum œstrus to persist, and that these corpora lutea inhibit œstrus during the lactation interval. The theoretical explanation proposed is that the stimulus of sucking acts on the anterior lobe of the pituitary, and that the excess of pituitary secretion so produced causes the persistence of the corpora lutea.

The weakness of this theory is that there are many mammals in which lactation does not inhibit œstrus. In the ungulates—the cow, mare, and sow—according to Parkes, lactation has no effect on the recurrence of the œstrous cycle, and therefore presumably on ovulation. In the human species, the occurrence of menstruation during lactation seems to be quite common, but not without exception. In cases where there is no succession of short œstrous cycles the question of the effect of lactation does not arise; for example, in the dog pregnancy lasts about two months, and is followed by lactation for about the same period and there is no recurrence of œstrus during all this time; but œstrus is also absent for a similar period when no pregnancy or lactation occurs.

The case of the ferret, recently investigated experimentally by Hammond and Marshall, is in strong contrast to that of the dog, though both animals are carnivores. Œstrus in the female ferret is marked by a conspicuous feature—namely, great swelling of the labia of the vulva. Ovulation occurs only after copulation and, in the absence of this, œstrus continues till the end of the breeding season. The duration of pregnancy is forty-one or forty-two days, and the recurrence of œstrus after parturition depends entirely on lactation. When the young were killed immediately after birth œstrus began nine days later, but while lactation continued there were no signs of it. Moreover, during lactation the corpora lutea do not remain large, as in the rat, but rapidly atrophy, as in the rabbit, from which it would appear that the influence of lactation in suppressing œstrus does not act through the medium of the corpus luteum.

Another instructive contrast is afforded by the rat or mouse and the guinea-pig. Both genera are polyœstrous, the cycle in the rat occupying five to six days, in the guinea-pig about sixteen. In the guinea-pig there is no lactation interval; there is, as in mouse or rat, an immediate post-partum œstrous, followed by a second at the normal interval of sixteen days, during lactation. As the suppression of œstrous only occurs in the mouse when more than two young are suckled, the absence of œstrus-suppression in the guinea-pig has been attributed to the smaller number and greater maturity at birth of the young in this animal.

According to the results of O'Donoghue[2] and Hartman[3] the difference between the marsupials *Dasyurus* and *Didelphys virginiana* is similar to that between the dog and the ferret. The former is monœstrous, and ostrus is absent not only during the period of lactation but during the corresponding period when there are no young in the pouch. In *Didelphys virginiana*, on the other hand, in the absence of pregnancy œstrus recurs every twenty-eight days, but is suppressed during the whole of lactation, the young remaining in the pouch about fifty days. But if the young are removed from the pouch and destroyed œstrus returns ten to fifteen days later.

It is not possible to discuss details at greater length in such an article as the present, but enough has been stated to prove that there is no general correlation between the stimulus of sucking and the suppression of œstrus, as is assumed by the theory of Crew and Mirskaia. This correlation occurs in the mouse and rat, in the ferret, the rabbit, and the Virginian opossum, but it is absent in cow, mare, goat, pig, and frequently, if not always, in the human species. It seems to me that the really significant correlation is between the suppression of œstrus and the condition of the newborn young. In those cases where œstrus is inhibited the young are naked, immature, and kept for the greater part of the time enclosed in a warm nest in close contact with the mother. In the other cases where œstrus occurs during lactation, as in the cow and the guinea-pig, the young are born covered with hair and able to run almost at once. If the inhibition of œstrus were due to the absorption of soluble substances by the mother from the bodies of the young, either from the mouths of the latter through the teats, or from skin to skin, the correlation between the nidicolous immature condition of the young and the suppression of œstrus during lactation would be explained, while on the theory of the stimulus of sucking, since this stimulus occurs in the cow as in the mouse, there is no reason for the difference between the two in respect of œstrus during lactation. The case of *Didelphys* is especially important, for here the young are born after a gestation of only thirteen days in an early fœtal stage of development, and are transferred to the pouch, where they become permanently attached to the teats. The skin within the pouch is naked, vascular, and glandular, and removal of the young from it has the same effect with regard to œstrus as removal of the fœtuses from the uterus in higher mammals. The stimulus of sucking maintains the process of lactation in all cases, whether in the cow or the opossum, and it has been shown in the opossum and in the rabbit that the stimulus determines secretion, not in the whole system, but in each gland individually; but it is improbable that it affects the occurrence of œstrus.

How the hormones supposed to be absorbed on the theory I have suggested could affect the recurrence of œstrus, whether by acting on the corpora lutea or on the pituitary, is a matter for future investigation, but it may be mentioned

* Reproduced from *The British Medical Journal*, September 27th, 1930.

Tuberculosis in Children.

Discussion at the Winnipeg Meeting of the British Medical Association, August, 1930.*

The subject of tuberculosis in children was opened by Dr. Maurice McPhedran (Philadelphia), who began by stressing the different appearances in the lesions in childhood and adolescence. The interaction of seed and soil represented a complex problem as regards the type, age, sex, and resistance; the significance and correlation of each could be shown by comparison of the X-ray representation of the types of tubercle in children and adults with the normal picture. He insisted on the importance of using X-rays, and pointed out how they might reveal the only evidence of activity. He illustrated his contentions with quoted cases of tuberculosis associated with normal pulse, temperature, blood count, and sedimentation rate. He showed how diagnosis could be similarly aided in the common non-tuberculous basal lesions. Dr. Ray M. Price (Toronto) dealt with the bacteriology of tuberculosis in children. From the standpoint of incidence, she said, the human was the most important of the various forms of tuberculosis; the bovine type came next, and its morbidity was to a degree parallel with the amount of tuberculosis in the bovine species; the avian type was an occasional factor. Referring to research being carried on in Toronto, she mentioned 207 medical and surgical cases of tuberculosis in children under 14; these showed that of 65 cases of medical tuberculosis 63 were due to the human type of tubercle bacillus and 2 to the bovine type. Pulmonary tuberculosis was essentially due to infection of the human type. Of 75 cases of bone and joint tuberculosis there were 72 in which the infecting organism was human, while 3 were bovine. In 30 cases of tuberculous cervical adenitis 17 were human and 13 bovine, while of 20 cases of renal tuberculosis 18 were human and 2 bovine. Only 2 cases of primary abdominal tuberculosis were encountered, and both proved to be bovine. One case of generalized glandular tuberculosis was found to be of the avian type. The research workers had interested themselves in the study of raw market milk. Of 250 samples from small dairy farms supplying Toronto with milk for pasteurization, only 3·7 per cent. proved to be infected, but in striking contrast 26 per cent. of pooled bulk milk prior to pasteurization proved to be infected. The work went to show that the effective pasteurization of milk eliminated the menace of bovine tuberculosis. Dr. D. Nabarro (London) who discussed mediastinal glands and primary lung tubercle in children, said that his observations of the last two years had proved that the primary lung focus arose from insufflation, and that it gave rise to secondary tracheo-bronchial glands. The primary focus was usually found immediately beneath the pleura, and on the right as against the left side in the proportion of 3 to 2. His research led him to believe that if a lung focus was present tuberculous mediastinal glands would be discovered; if glands were found to be infected a lung focus would be present. His work at Great Ormond Street had shown that in 424 *post-mortem* examinations on children under the age of 12, 15·8 per cent. had shown tuberculous disease; in only one case had he found lung signs with no corresponding change in the mediastinal glands.

Dr. W. J. Dobbie (Weston, Ontario) emphasized the need for more adequate measures for the prevention of tuberculosis in childhood. He believed that the infection rate was a point of paramount importance. Since the sources of infection were well known, and the conditions of development recognized, the hope for the future lay in the active and persistent application of the knowledge already available. While he welcomed research, it would be better to apply what was already known. He stressed the application of the following measures: (1) adequate means of protection; (2) the removal of all children under the age of 16 from active open cases; (3) the adequate prevention of expectoration in public places; (4) proper medical inspection of children with immediate segregation on the discovery of a lesion; (5) the removal from schools of all open cases among pupils or staff; and (6) appropriate treatment being carried on for some years. It might, he added, be claimed that such a scheme would produce a generation without resistance from lack of immunity, but be believed that such fears were groundless. Dr. Parsons commented on the importance of pasteurization in the fight against tuberculosis in children. He pointed out that the obtaining of pure herds, free from tuberculosis, would be the ideal, but would take generations to accomplish. The best form of control was pasteurization. The evidence of its efficiency was the presence of tubercle bacilli in raw milk and their absence after pasteurization. The practical result of its application on the incidence of tuberculosis and its mortality could be determined from a study of non-pulmonary disease in the age groups of 1 to 4, or even 1 to 14. Bovine infection had a preference for the lymph nodes in early life. It was evident from their work in Toronto that the pasteurization of milk was showing tangible results. They now saw very little glandular tuberculosis, while peritoneal tuberculosis was a rarity. From 1911 to 1915 hospital records indicated 0·025 per cent. non-pulmonary tuberculosis; the figure for 1924 to 1928 inclusive was 0·013, a reduction of 50 per cent. He concluded by pointing out that pasteurization did not harm the milk. Dr. J. A. Jarry (Montreal) dealt with childhood tuberculosis and housing. He submitted figures connected with a survey of 1,256 cases of tuberculosis at the Bruchesi Institute. Complete investigation of the cleanliness and peopling of the houses was made, and his conclusions were that in Montreal the problem of the slum did not exist, while the dwelling by itself was clean. He had found that the situation was aggravated by the overcrowding of homes and the overpeopling and lack of aeration in the central wards of the city. He had concluded that family contamination and underweight in children were the dominating problems, and he believed that the solution for the future was dependent on the education of the people and the protection of childhood. He stressed the importance of giving all possible help to students and physicians who wished to investigate tuberculosis. In the end, the problem lay in early diagnosis, and this fact presupposed in every physician the required competence to discover the disease on its first symptoms. Dr. Bruce Chown (Winnipeg) discussed tuberculosis in childhood with special reference to the pulmonary form. No one could be dogmatic about the etiology of tuberculosis in childhood, since what applied to one community did not necessarily apply to all others. In Winnipeg he had come to look on the problem as one almost entirely of human infection, since the bovine tubercle bacillus as a causative agent was so rare as to be a curiosity, while the human bacillus was so often encountered as to be appalling. It was a common mistake to believe that tuberculosis early affected the child's nutrition. Cough was more often

* Report of Proceedings of the Meeting of the Section of Tuberculosis of the British Medical Association, Winnipeg, August 28th, 1930. *British Medical Journal*, September 27th, 1930.

that in most cases there is reason to believe that substances absorbed from the fœtuses in the uterus determine the persistence of the corpora lutea. Considering the atrophy of the latter after abortion, it is a question whether it is the function of corpora lutea to maintain pregnancy, as frequently stated, or the effect of pregnancy to maintain the corpora lutea.

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[1]Crew, F. A. E., and Mirskaia, L.: Lactation Interval in the Mouse, *Quart. Journ. Exper. Phys.*, June, 1930, vol. xx, No. 2.

[2]O'Donoghue: Growth Changes in Mammary Apparatus of *Dasyurus* and Relation of Corpora Lutea Thereto, *Quart, Journ. Micr. Sci.*, 1911, 57.

[3]Hartman, Carl: Œstrous Cycle in the Opossum, *Amer. Journ. Anat.*, 1923, vol. 32.

present than mentioned, and pleurisy with effusion was often the first definite system. In diagnosis he stressed the value of getting a history of contact, a positive tuberculin reaction, and an X-ray film. The tuberculin test ought always to be correlated with the type of community in which it was practised; he believed that a positive test was not only of diagnostic value for one particular child, but pointed the way back along which the bacillus had come. He would warn against the all-too-frequent and unjustified diagnosis of hilar increase and enlarged hilar glands. In treatment he was constantly surprised to find how well an infant could handle a quite extensive infection if kept isolated from adult re-infection. No child with a positive tuberculin reaction should be declared free from pulmonary tuberculosis without a good X-ray film properly interpreted.

From The Veterinarian,

August, 1830.

The *Post-mortem* Examination of a Rabid Ox.

By Messrs. Dupuy and Prince.

(*Journal Pratique*, June, 1830.)

An ox, aged two years, died in a village near Toulouse, was carried to the Veterinary School, and opened on March 14th, 1830.

Digestive Passages.—The cavities of the mouth and pharynx were thickly lined with very viscid mucus. The bursal membrane was red at the base of the tongue, and the numerous follicles that open on its surface were surrounded by a distinct red areola. The membrane was neither thickened nor softened, and the sub-mucous cellular tissue presented some capillary injection None of the pustules of Marochetti were found.

The internal membrane of the fourth or true stomach was of an ashy-grey colour, and the coats of their natural thickness and structure. This membrane presented numerous little spherical prominences, of variable size, caused by the presence of some gaseous fluid in the sub-mucous cellular tissue: with this exception, it possessed the character of health. The mucous membrane of the rest of the alimentary canal was healthy, except that there were the same prominences as in the fourth stomach; but they were confined to the line at which the small intestines were united to the mesentery, and they were collected in spaces of ten or twelve inches in length, with intervals of five or six feet. The same appearance was observed in the cæcum, but it ceased at the commencement of the colon. The greater part of these prominences were as large as olives.

The lobules of the pancreas were separated by a gaseous fluid. The bladder was contracted in an extraordinary degree, and exhibited on its mucous coat a few arborescent injected vessels.

Chest.—The cellular tissue separating the lobes of the lungs was the seat of some unusual collections of elastic fluid, grouped together in little cystiform cavities, a line in diameter. On cutting into the pericardium, more than a pint of reddish serous fluid escaped, but the membrane itself exhibited no morbid appearance. The substance of the heart was pale and easily separated. The internal walls of the cavities of the heart were of a deep cherry-red colour, but the lining membrane was transparent and without colour; while the cellular tissue beneath was highly injected. The anterior aorta, as far as its division, and the thoracic aorta, contained a firm black clot of blood.

Brain and Spinal Chord.—The small vessels beneath the arachnoid membrane were injected, but the substance both of the cerebrum and cerebellum was unaffected. The corpora striata, thelami opticoram, and tubercula quadrigemina presented a dark injection, without any softening of substance.

In the spinal chord beneath the tunica arachnoidea was a reddish liquid, like the lees of wine, the third of a line in thickness. All the spinal chord, from the separation of the decussation of the corpora pyramidalia, displayed in these two substances a want of consistence. This softening was more evident posteriorly, and at the lumbar region. The roots of the nerves proceeding from the spinal chord seemed to be softened, but were not discoloured. The ganglions of the superior roots were red externally, but possessed their ordinary grey appearance within.

These lesions reduce themselves to those which indicate irritation of the mouth and the pharynx; the grey tint of the fourth stomach; the sub-mucous emphysema of the stomach, intestines, and pancreas; the contraction of the bladder; the inter-lobulary emphysema of the lungs; the irritation of the pericardium, the heart, and great vessels; that of the tunica arachnoidea of the spinal chord; the injection of some parts of the brain, and the softening of the spinal marrow. Can we by these morbid appearances recognize rabies? Could we say that the animal died mad? Pathological anatomy is far from this degree of certainty, but it is the object towards which it ought to be directed.

All these lesions are not of equal importance, nor do they equally shew that the ox was rabid. Those of the mouth, and the pharynx, and the circulatory system, and the brain, most deserve attention; although we must not pass over in silence the extreme contraction of the bladder.

The disease, during life, was characterised by all the symptoms of rabies. The ox had been bitten by a rabid dog. In process of time it began to cease to ruminate and to eat; then it shewed *dread of water*; and afterwards became furious and ran at everyone within its reach. A viscid saliva ran from its mouth; its eyes had a peculiarly dazzling appearance. It endeavoured to bite at everything within its reach; and the sight of a dog excited it to the highest degree of fury. All these symptoms were accompanied by a frightful bellowing, as if some ferocious animal were tearing him to pieces.

Although this account is exceedingly unsatisfactory in many particulars, we give it insertion, because it adds one to the very few detailed accounts of rabies in the ox. The existence of *hydrophobia* in this animal is singular. We have seen something like it more than once in the horse, and once only in the dog.—Ed.

The Value of Sheep.

The high levels to which the prices of sheep have attained testify afresh, and convincingly, to the truth of the old adage that the surest and the quickest way to procure increased and better production is to provide markets for what is produced. British farmers have been harassed and badgered so severely by marketing changes and artificial injustices that they are sorely put to it to discover some way of making ends meet in their industry. Depression is acute and looks like getting worse; competing supplies are coming in from all quarters without let or hindrance, dumped, or the result of cheaper labour, and the prospect is devoid of a ray of hope while home producers have statutory conditions on the one side and uncontrolled dumping on the other. Driven from the growing of corn and vegetables, on the one hand, and now finding milk and beef unremunerative and pigs uncertain, on the other, their field for resource is seriously and severely hampered. Sheep alone have pursued an even course in the past year or two, and the fascination of unwonted consistency has induced such a demand for breeding sheep that values have risen with the advance of the season. With half-bred two-tooth ewes (shearlings) selling up to 90s., and even Cheviots to 74s. 6d., at far off Lairg, and other breeds, types, and ages in proportion, it is clear that demand has swung round strongly in the direction of sheep as a possible escape from the rut of depression.—*The Times.*

The Veterinary Record.
October 18th, 1930.

International Veterinary Congress.

The *Veterinary Record* has already paid tribute to the untiring labours of those officials who were largely responsible for the overwhelming success of the 11th International Veterinary Congress. The profession was singularly fortunate in possessing men of outstanding ability and with breadth of vision, who were willing to undertake the responsibility of organising a Congress of this magnitude. We owe them a debt of gratitude for the successful outcome of their efforts.

Reports on the Conference are now appearing in the veterinary periodicals of other countries, and they are unanimous in expressing the delegates' high appreciation of the efforts of the Organising Committee.

In this issue, we have pleasure in publishing the impressions of Dr. Campbell, the well-known editor of *Veterinary Medicine*. It is refreshing to obtain the point of view of one of the American delegates, and whilst we are sure that many will not fully agree with his criticisms, nor consider that he has rightly understood the position in this country in regard to some of the diseases which he mentions, we are glad to publish his observations in the friendly spirit in which they are offered.

Administrative Report.

[**City and County of Newcastle-upon-Tyne.** Report of the Chief Veterinary Officer for the Year 1929.]

The 23rd Annual Report of Mr. Thomas Parker, F.R.C.V.S., does not differ in any material outline from those of former years.

Dealing with the scheduled diseases under The Diseases of Animals Acts, there is not much for comment with the exception of swine fever, where it is interesting to note that of three suspected cases the presence of the disease was not confirmed in any of them. One is particularly interesting as it brings out the point, which has been emphasized on more than one occasion, that it is quite possible for swine fever not to be so diagnosed officially.

With regard to meat inspection, it would appear that, despite the tightening up of inspection in foreign countries and at the ports here, some carcasses of sheep affected with caseous lymphadenitis apparently get into circulation.

It is of interest to learn that a Special Committee appointed to deal with the provision of centralised abattoirs and markets have now decided to negotiate for the acquisition of a suitable site.

The microscopical examination of milk showed that five samples were positive. The advantage of rapid action when milk from specially suspected udders is found to contain acid-alcohol-fast bacilli is obvious when compared with the time taken by the inoculation test.

It would appear that Mr. Parker is also responsible for the administration of the Rats and Mice (Destruction) Act, 1919.

With regard to the work done under the Milk and Dairies Order, although 191 visits were made to cowsheds and dairies for the purpose of inspecting the buildings, and the conditions as to cleanliness, etc., it is not stated how many times the cattle are examined per year, or how many were examined, although we are told that there were four cases of tuberculosis of the udder. It seems from the table on page 18 that the number of cows kept within the City is gradually declining, *i.e.*, from 527 in 1909 to 258 in 1929. No reason is given for the decline.

In the table on page 20 relating to the number of animals exhibited in the Newcastle Cattle Market, a decline in numbers is also noticeable. Taking the years 1887 and 1929 we see :—

Year.		Cattle.	Calves.	Sheep.	Swine.
1887	...	110,074	8,780	325,473	28,964
1929	...	34,697	1,796	197,225	2,189

During the intervening years, of course, there has been a very great increase in the amount of meats imported.

The table relating to Poultry, Game, Fish, Fruit, Vegetables, etc., destroyed as being unfit for human consumption during the year, gives the reason of unfitness as being unsound and unwholesome, and there is no reference whatever to the actual diseases which caused the condemnation of the various commodities. From a statistical point of view the table numbered 12, showing the carcasses, etc., destroyed as being unfit for human consumption, is little more than a Departmental record. It is extremely difficult to obtain any information from it with regard to the exact diseases as, with the exception of tuberculosis, swine fever, caseous lymphadenitis, and actinomycosis, the remainder are only pathological conditions.

All parasitic conditions are grouped under one heading and no reference is made to echinococcosis and other cystic tape worm infestations.

T. E. J.

At Tunbridge Wells County Police Court recently, James Barden, of Lamberhurst, was fined £10 for burying carcasses of certain pigs which had died of swine fever and for having pigs affected with swine fever in his possession and failing to give notice thereof to the police.

Defendant informed the police that he purchased 15 pigs at Ashford Market and sold eight at Tonbridge. Of the rest three died and were buried in the hop garden, while two others were killed and buried. He added that he had no knowledge that the pigs were suffering from swine fever.

Clinical and Case Reports.

The Therapeutic Value of Spleen Extract.

By Major T. F. Arnold, R.A.V.C.

In February of this year *The Veterinary Record* (1930, Vol. X, No. 6, page 123) gave an annotation describing the treatment of eczema and urticaria in the human subject with an extract of hog spleen. Utilising this information, I prepared a crude extract of sheep spleen and employed it in the treatment of a similar case of eczema in a dog with a remarkably successful result. The effect produced on this occasion led me to continue its use experimentally in other pathological conditions of a similar nature, and they also produced interesting results, particularly in regard to canker of the horse's foot. The treatment of this disease by the intramuscular injection of spleen extract without local interference has been so consistent, rapid and good that I am tempted to think that it is specific.

In the first instance, I employed this treatment sceptically, but the effects were so striking that the case is described here at some length. The patient was a red setter dog, aged 9 or 10 years, suffering from chronic eczema associated with diabetes. Both conditions had existed for at least 8-10 months, and had been stationary or progressive under various general and local medicinal treatments. When, in April, 1930, it was decided to try the effect of spleen extract the dog's condition was critical. There were two diffuse, moist eczematous patches, each four to six inches across, on the back, which caused intense irritation; the paws were large and splayed; the abdomen was pendulous and relaxed; thirst was intense; lassitude extreme, and, in addition, there were all the signs of advanced senility; a greyness about the muzzle, many teeth missing, and defective vision. The effect of the spleen extract was radical and rapid. The first dose of 2 c.c., given subcutaneously on April 4th, 1930, was followed by a slight local reaction, pruritus appeared to be lessened and the eczema not so moist. A second dose of 4 c.c., given subcutaneously on April 4th, 1930, produced what might easily have been protein shock.. There was a marked nervous reaction with trembling, fever, and local painful swelling at the site of injection. The following day the eczematous areas were visibly smaller and quite dry, and by April 23rd very little active eczema remained and the abdominal distension was much reduced. On April 26th a further 2 c.c. was similarly administered and the following day the eczema was completely cured, and the diabetes apparently so. No further treatment has been given and now, five months later, the dog is in perfect health, is carrying a splendid coat, is full of life and appears to be completely rejuvenated. The lack of teeth alone remains as an indication of his age.

The action on the skin was so great that it occurred to me that it might extend also to the epidermal appendages. I therefore tried it on two animals, one horse and one mule, suffering from very advanced canker of the feet which had been under treatment for 20 and 12 months respectively. Both these animals made rapid and complete recoveries. Local treatment consisted of dry boric acid dressing only, in order to confine any effect produced to the spleen extract. Improvement was instantaneous and continuous. The first effect, seen as early as 24 hours only, is to stop the moist smelly discharge from the cankerous tissue; the canker then becomes the consistency of cheese, and the third and final stage is the conversion of this cheese-like material into apparently normal horn. The rapidity depends upon the position of the disease. The wall reacts first, then the sole, and finally the frog, which may take four to six weeks to be completely restored to normal. The extreme depth of the cleft of the frog is the last spot to heal. There is a temperature reaction which in the initial stages appears to be in direct proportion to the results obtained. Paring the cankered tissue retards the healing process, but once it passes the caseous stage it can be treated as ordinary healthy horn tissue.

Since then seven other cases of canker of the foot in equines and one of chronic eczema in the dog have been treated by the injection of spleen extract only, except one case noted below, with satisfactory results. In addition, three horses with large, indolent, slowly-healing wounds, and one donkey with a lacerated bite-wound on the penis, have received spleen extract with the result that in each case healing was greatly hastened and proceeded without any local irritation.

The preparation used was extracted from sheep spleen with common salt. An extract prepared from horse spleen gave similar results but an extraneous infection occurred, possibly by contamination during preparation due to inability to handle such a large organ aseptically. The dose given to horses and mules was 5 c.c., on every alternate day. The subcutaneous injection often resulted in abscess formation, so that injections were subsequently given intramuscularly.

It was found that the most rapid and gratifying results followed the use of spleen extract in cases of old standing, while recent cases took longer to react. The only failure was a canker case in which the sensitive laminæ were much injured and the os pedis had become necrotic through the over-zealous application of caustics.

The action of the sheep spleen extract observed in eczema in the dog and in the healing of large or indolent wounds appears to indicate the presence in it of histamine and acetylcholine. These two chemical substances are noted in the *Report of the Medical Research Council* for the year 1928-29, quoted in the *Veterinary Record* (1930, April 19th, Vol. X, No. 16, pp. 346-347), as having been "extracted from the spleens of large animals such as the horse or ox, and which are reported to be concerned in delicate adjustments of the blood circulation to particular local physiological needs within the body." There is a possibility that canker may be a deficiency disease, whereas the surprising beneficial effects on diabetes and general condition, as observed in my first-quoted case, indicate an influence on body metabolism through the medium of the pancreas.

The Lancashire (swine fever) county area order has been revoked in consequence of the improved position in the county as regards that disease.

The restrictions have been in operation since the beginning of June, and in consequence no pigs could be removed in Lancashire except by licence, and no store pig markets could be held.

Laceration of the Ear in a Bull Calf.*

By F. J. Kinghorn, Glasgow Veterinary College.

Subject.—A valuable Aberdeen-Angus bull calf, about eight months old.

History and Examination of Patient.—Owing to difficulty in recognising these calves in a large herd, the owner was in the habit of putting a metal identification stud approximately into the centre of the ear flap. In this case the animal put his head through a hole in a wire-netting fence, and, on withdrawing his head, caught the neck of the stud in the wire and tore it completely out, leaving a track from the centre of the ear outwards.

The owner had had previous trouble with these studs, and as he wished to avoid a repetition of the unsightly distortion which followed the healing process he wondered if anything could be done.

The animal was not seen until three or four days after the accident, and it was found that the edges of the wound had begun to heal.

Treatment.—The animal was cast and the hair on both sides of the ear-flap clipped and shaved. It was then placed under chloroform anæsthesia. The edges of the wound were refreshed by removing from either side a thin slice of cartilage with a sharp scalpel. The skin was then dissected back from the cartilage on either side of the wound on the dorsal and ventral surfaces for a distance of about ⅛-in. parallel to the edges of the cartilage. The cartilage thus revealed was cut away and its borders evened up. The two flaps of skin on either side of the edges of the wound were brought into apposition with their edges turned upwards and sutured with stout silk sutures passing through the skin at intervals of about ⅜-in. This was repeated on the ventral surface and had the effect of bringing the cartilage into apposition. The ear was cleaned and dried and spirit applied. When this had throroughly dried, three coats of flexible collodion were applied over the wound and sutures on upper and lower surfaces. The animal was allowed to rise and turned into a small paddock near the farm steading. The wound healed with practically no distortion and the animal made a good recovery.

An Hermaphrodite Pig.*

By J. L. Buckingham, Royal Veterinary College, London.

The *subject* was one of a litter to be castrated and spayed. It was a Large White, sow pig, aged six weeks.

An assistant held the pig by its two hind legs in the usual manner, with its neck placed beneath the operator's foot and its back towards his legs in such a position that the pig was lying on its right side. A vertical incision was then made into the abdominal cavity in the region of the flank and the first finger of the right hand was inserted. This was passed backwards and upwards in the usual manner until that small pea-like body, the left ovary, was felt. This was drawn up to, and out of, the wound and following it the left corner of the uterus was drawn out.

On coming to the junction of the two cornua, however, it was found that the right cornu was less convoluted than normal and instead of a small pea-like body being attached to it there was a large organ about twice the size of a hazel nut in the place of the right ovary. With some difficulty this was drawn out and held, with the left ovary, etc., in the operator's left hand. The attachments of these organs were then cut through, the uppermost hind leg pushed towards the pig's head, the operator's finger withdrawn and the lips of the wound sewn together by a continuous suture.

Upon examination it was found that the organ which replaced the right ovary was a testicle as well developed as a testicle of a normal boar pig of the age of six weeks.

It was also observed that the external genitalia of this pig were abnormal—the vulva somewhat resembled a very small penis and pointed upwards, so that when the pig urinated the flow of urine, instead of going downwards, went upwards first.

Upon enquiry it was found that the sire and dam of this pig were closely related, each being by the same boar out of dams which were sisters. One other sow in the litter had a rudimentary testicle in place of the left ovary and her external genitalia were similar to those above described.

* Cases presented for award under the N.V.M.A. Clinical Prize Scheme for Students, 1929.

"History of Veterinary Literature."

Completion of Publication of the late Sir Frederick Smith's Third Volume.

With the October number of the *Veterinary Journal* there are issued the plates to illustrate the late General Smith's Third Volume of the History of Veterinary Literature, together with the index. There is thus completed the publication of the work upon which Sir Frederick was engaged at the time of his death. Our advice to all subscribers of the *Veterinary Journal* is to collect the supplements and have them bound at once. There is good reason for this advice, for the number of copies printed is limited, and the work cannot depreciate in value. Those who do not possess Volume II can obtain copies from the publishers, Messrs. Baillière, Tindall & Cox, who have made the work of publication a labour of love. The Manuscript of Volume IV was entrusted by the author to Dr. Bullock in the hope that he would complete the work and see it through the press, and we hope that means may be found for this to be accomplished.

Our profession has been up to now deficient in this one important feature, that it had no published history. Sir Frederick Smith's work goes far to supply this want, but much more remains to be done. In the hope of creating a wider interest in the history of the profession we heartily commend to our readers the Volume which is now complete. It has been supplied to us practically free of cost, but we cannot expect future workers to devote themselves to the task of completing the History unless the sale of the work is sufficient to make publication worth while. Sir Frederick Smith worked at his history to the last; even on his death-bed. He did it for the love of his profession, and because he realised that the status of the profession would be enhanced by an ordered statement of its progress. The least we can do, when he did so much for us, is to foster the work he initiated.

N.V.M.A. Divisional Report.

Central Division.

Annual General Meeting.

ELECTION OF OFFICERS.

The Annual General Meeting of the Central Veterinary Society was held at 10 Red Lion Square, W.C.1, on the evening of Thursday, October 2nd, 1930.

Professor James Macqueen, the out-going President, occupied the Chair prior to the induction of his successor, Capt. G. Dunlop Martin, and there were also present Capt. L. S. Balls, Capt. R. E. C. Bullen, Messrs. W. Brown, H. E. Bywater, L. Gabriel, I. A. Galloway, H. D. Jones, Herbert King, Major H. Kirk, Capt. W. J. Leyshon, Mr. G. H. Livesey, Professor J. McCunn, Mr. J. W. McIntosh, Mr. W. Perryman, Veterinary-Major G. Rees-Mogg, Capt. R. J. Stow, Mr. E. Lionel Stroud, Major R. F. Wall, Mr. R. A. Willett and Professor J. G. Wright. Mr. L. W. Coulden, Mr. A. B. MacIntyre and Major R. E. Montgomerie were present as visitors, being accorded a hearty welcome by the President.

The receipt of apologies for unavoidable absence was announced from Mr. J. C. Coleman, Major-General Sir John Moore, Dr. A. L. Sheather, Mr. F. W. Willett, Professor G. H. Wooldridge and the Hon. Secretary, Capt. J. F. Macdonald, the meeting appointing Capt. Townson to officiate for the occasion in the room of the last-named.

The minutes of the last annual general meeting, which had received publication in the *Record*, were taken as read and were confirmed and signed, on the proposition of Mr. JONES, seconded by Major REES-MOGG.

Correspondence. (1) From Mrs. Trevor F. Spencer, of Kettering, thanking the Society for its message of sympathy with Mr. Spencer and herself in the serious illness of the former, and stating that Mr. Spencer was making slow progress, but that the writer hoped she would soon have better news to convey.

(2) From the N.V.M.A., stating that it had been suggested by the Organising Committee of that body that each Division should appoint a Committee of three or more members willing to use their personal endeavours, either together or singly, to induce non-members of the Association to join the N.V.M.A., and that it was hoped that the Central Division might see its way to form such a Committee. A supply of application forms for membership accompanied the letter.

Replying to Major REES-MOGG, the PRESIDENT said that there were a few members of the Division who were not members of the N.V.M.A. Mr. MCINTOSH thought the Society should act on the suggestion put forward by the parent body, for there was no double that if a committee of suitable individuals were appointed for the purpose stated in the communication before them, it would have a very good effect. It was the personal touch which was needed, and if all the Divisions of the National adopted the suggestion a large increase in membership would result. He had much pleasure in proposing that a committee be appointed.

Mr. STROUD seconded, and the proposition was carried unanimously.

The members appointed to serve on the committee were Major Kirk, Professor McCunn, Capt. Townson and Professor Wright.

(3) From Mr. O. S. Broadhurst, Capt. W. S. Gordon and Lt.-Col. J. W. Rainey, tendering their resignations from Fellowship. It was decided that all these gentlemen should be requested to reconsider their decisions to resign, it being felt that inability to attend the meetings did not necessitate or justify severance of connection with the Society.

Nominations.—The following were nominated for Fellowship of the Society:—Miss Marian Stewart (Scotstounhill, Glasgow), proposed by Principal Hobday, seconded by Mr. Stainton; Lt. L. W. Coulden (R.A.V.C.), proposed by Professor McCunn, seconded by Professor Wright; Major Eustace Montgomery (London), proposed by Capt. Townson, seconded by Mr. McIntosh; Mr. Fred Proud (Staines), proposed by Mr. R. A. Willett, seconded by Capt. Townson; Mr. A. S. Watson (Westcliff-on-Sea), proposed by Capt. Dunlop Martin, seconded by Capt. Townson; Mr. G. F. Widden (London), proposed by Capt. Townson, seconded by the Hon. Secretary; and Capt. W. G. Wragg (London), proposed by Capt. Townson, seconded by the Hon. Secretary.

Annual Report: 1929-30.

Capt. TOWNSON now read Capt. Macdonald's report in his capacity as Hon. Secretary, for the year 1929-30. The report was as follows:—

During the session 1929-30 we have held the usual eight general meetings, the annual general meeting, a dinner-dance and four council meetings.

The attendances this year show an average of 32 members and 6 visitors—a rather meagre total when one considers the size of the Society and the fact that most of us are within easy reach of the meeting place.

Elections continue to be a pleasing feature, 16 new Fellows having joined us during the year, and we have also added a distinguished hon. Fellow to our ranks in Dr. P. P. Laidlaw.

Resignations have been few, only two in number, but we have in addition to mourn the loss of two good men through death.

The following papers were presented:—

(1) "Experiences with Distemper Immunisation."—Major T. Dalling, M.R.C.V.S.

(2) "The Value of the Cinema for Veterinary Educational Purposes."—Principal F. G. Hobday, C.M.G., F.R.C.V.S.

(3) "Surgical Anæsthesia by the Introduction into the Colon *via* the Rectum of Avertin (Tri-brom. ethyl alcohol.")—Professor J. G. Wright, F.R.C.V.S.

(4) "Some Extracts from Recent Literature on Tetanus."—A. L. Sheather, D.SC., M.R.C.V.S.

(5) "Some Recollections, Comparisons and Conclusions after nearly Forty Years' Veterinary Practice."—Major F. J. Taylor, T.D., M.R.C.V.S.

The other meetings were given over to discussions on:—

(1) Mr. D. E. Wilkinson's paper "Notes on Plastic Surgery," which was delivered during the previous session.

(2) The West of Scotland Division's scheme for the Eradication of Bovine Tuberculosis.

(3) Professor J. Macqueen's question: "Is it desirable to publish particulars of prescriptions mentioned by essayists and speakers in discussion?"

No annual summer outing was held this year, owing to the numerous opportunities afforded by the International Veterinary Congress.

There was, however, an innovation early in the session, when a very successful dinner-dance took place at the Criterion in place of the usual more formal dinner.

In conclusion, I must mention with feelings of gratitude that the supply of interesting morbid specimens continues to be most satisfactory, and beg those Fellows responsible, too numerous to name individually, to accept our hearty thanks for their trouble and enthusiasm.

The balance in hand is £107 13s. 7d., which the Council consider very satisfactory.

A large number of Fellows are now paying by banker's orders, and the Council are of opinion that this method of paying subscriptions should be brought to the notice of and Fellows.

J. F. Macdonald, *Hon. Secretary.*

Mr. McIntosh having moved the reception of the report,

The President commented that it was a distinctly favourable one and asked for a motion for its adoption.

Mr. Livesey moved, and the motion was carried unanimously.

Balance Sheet.—The President observed that this was printed on the reverse side of the Agenda Paper, and he invited comment.

Major Kirk remarked that it was a matter for congratulation that they had saved £6 on the dinner over the previous year, notwithstanding the fact that the function took the form of a dinner-dance.

The Hon. Treasurer (Mr. Stroud) said that in presenting the last balance sheet he should have the honour of putting before the Society, he should like to say that he was showing them a larger balance than any he had yet presented. They had over £107 in hand and, in addition, £200 were invested in Consols and £104 in War Loan. He would like to bring to their notice the large increase in members who were paying by banker's order: that would be a very great help to his successor. He was happy to leave his post as Treasurer with the knowledge that the Society was in a very sound financial condition. During the past year they had paid off their liability to the Royal Veterinary College Rebuilding Fund, giving £26 5s. as a second donation. The remaining items occurred in the ordinary way.

Concluding, Mr. Stroud said that it would have been a great pleasure to him if, in rendering his final balance sheet, he could have told them that there were no subscriptions in arrear, but nevertheless, he was very glad to be able to place so satisfactory a balance sheet before them. (Hear, hear.)

Mr. Perryman said that he would like to congratulate their Treasurer, Mr. Stroud, on the efforts he had always put forward on behalf of the finances of the Society; it was with very real regret that they learned that he was going to relinquish his post. (Hear, hear.) Mr. Stroud had only done 30 years (laughter), and he thought he might have gone on a little longer. (Applause.) Every congratulation should be given to Mr. Stroud for his past services to that society. (Applause.)

On the proposition of Mr. McIntosh, seconded by Mr. Perryman, the Balance Sheet was received and adopted.

The Victory Medal.

The President said that he desired to introduce an important item that had been omitted from the agenda.

At the last Council meeting it was unanimously resolved that the Victory Medal for this year should be awarded to Capt. Townson. (Applause.) There could be no dispute as to the merits of Capt. Townson to receive the Medal, and all they had to do was to pass a motion that it be so awarded.

Mr. McIntosh moved accordingly and Mr. Stroud seconded. In supporting the motion, Capt. Dunlop Martin observed that they all knew that Capt. Townson had rendered yeoman service to the Central Veterinary Society, for none had been more instrumental in securing new members

The motion was carried with acclamation.

Capt. Townson, in acknowledgment, said that he wanted to thank them very much indeed for the honour they wished to confer upon him. He regretted that he would be expected to say something further at a later date, and he therefore proposed to leave until then any further remarks he had to make.

Dr. Fred Bullock Honoured.

The President now observed that there was another important item that did not appear on the agenda and he thought it as well to introduce it at that point; that was, to confer the honour of Honorary Associateship upon Dr. Bullock, the Secretary and Registrar of the Royal College of Veterinary Surgeons. (Applause.) That was the recommendation of the Council, and all that it was necessary for them to do was to put it in proper order.

Mr. McIntosh moved that the recommendation of the Council be adopted. He need say no more than that Dr. Bullock would make a very worthy Associate of the Central Veterinary Society. (Hear, hear.)

Mr. Livesey desired the pleasure of seconding, as he was one of the original movers in a matter which had been too long delayed.

The President: "I think it is the least we can do in acknowledgment of our indebtedness to Dr. Bullock." (Applause.)

The motion was carried with enthusiasm.

Election of Officers.

President.—Professor James Macqueen, from the Chair, said that it was his pleasing duty to propose the election of their new President. He might tell them that at the last meeting of the Council it was unanimously decided that Capt. Dunlop Martin should be the President for the ensuing year. (Applause.)

He (Professor Macqueen) was sure that the selection was an excellent one, and that at the finish of his period they should be able to say that Capt. Dunlop Martin had carried out the duties and honours of the office to the entire satisfaction of the society and with credit to himself. (Hear, hear.)

"As a matter of form," concluded the speaker, "those in favour?" [Fellows: "All."] "Now, Capt. Dunlop Martin, will you come here, if you please." (Applause.)

Taking the Presidential Chair vacated by Professor Macqueen, Capt. Dunlop Martin said that he was sure that he did not know what he had done to deserve that: he must hasten, however, to assure them that he did feel

very much honoured by the invitation extended to him to become their President for that ensuing year.

He felt considerable diffidence in taking the office, because he felt that so many good and able men had filled the chair before him that it was not an easy chair to fill, and particularly in view of the fact that they had had such an eminent and able occupant of the chair during the past two years in their very dear and respected friend, Professor Macqueen. (Hear, hear.)

He could only say that if all of them would give him their assistance and support in carrying on the office of President—for without that help it was manifestly impossible for the occupant of the Chair to carry on—he would do his best, so that at the end of his year of office they might not feel that he had failed: he would do what in him lay to maintain the traditions of the Chair. He thanked them very much indeed.

Would they allow him, before he resumed his seat, to take advantage of that opportunity, to propose, on their behalf, a very hearty vote of thanks to Professor Macqueen for the very able and conscientious manner in which he had carried out the duties of the Chair during the past two years. (Hear, hear.) They were very indebted to him for his kindly advice on all occasions, and he was sure he was voicing the feelings of all the Fellows of the Central Veterinary Society in tendering him their very hearty thanks. (Applause.)

Professor Macqueen observed that all he could say in reply was that he thanked Capt. Dunlop Martin for his remarks in his (the speaker's) favour. He was very much obliged to them all.

Vice-Presidents.—The following were elected: Professor James Macqueen, Major H. Kirk, Dr. A. L. Sheather and Capt. R. J. Stow.

Council (elected by ballot): Mr. H. D. Jones, Mr. J. W. McIntosh, Capt. W. K. Townson, Professor G. H. Wooldridge, Mr. W. Perryman, Professor J. G. Wright, Major G. W. Dunkin, Mr. H. C. P. King, Mr. R. A. Willett, Sir John Moore, Mr. G. H. Livesey and Lt.-Col. P. W. Dayer-Smith.

Hon. Treasurer.—On the the proposition of Professor Macqueen, seconded by Mr. McIntosh, Professor McCunn was unanimously elected Hon. Treasurer of the Society in succession to Mr. E. Lionel Stroud.

Hon. Secretary.—The President observed that he felt sure that they would agree with him that if Capt. Macdonald would accept the office again they could not possibly do better than re-elect him as their Hon. Secretary. (Hear, hear.) Capt. Macdonald had made them an extraordinary good Secretary and he should like to propose from the Chair that the Hon. Secretary be re-elected.

Professor Macqueen seconded the proposition, which was carried amidst applause.

Trustees.—Mr. E. L. Stroud, Mr. J. Willett and Capt. S. Villar were re-elected as Trustees.

Auditors.—Colonel P. W. Dayer-Smith (as the auditor who is also a member of Council) and Major R. F. Wall (as representing the other Fellows of the Society) were re-elected.

Any Other Business.

Annual Dinner.—The President informed the meeting that at the meeting of Council held last week the matter of the Annual Dinner (to be held this year on November 6th) was discussed and it was suggested that a small committee should be constituted. It was recommended that the Dinner Committee should consist of three, who should be the Hon. Treasurer, the Hon. Secretary and the President for the year. Perhaps they would vote on that.

The foregoing recommendations were approved, on the proposition of Professor Macqueen, seconded by Mr. Jones.

The President said that he would like to take the opportunity of requesting the Fellows to bear in mind that they could always do with subjects for papers. The Society enjoyed a great accession to its membership last year, and new blood brought new ideas, which were always welcome. It might be as well to mention, too, that the Council had discussed the question of fixing a time limit for Fellows taking part in the discussions on papers. It was suggested that 10 minutes should be the limit for the opener of the discussion and five minutes that for subsequent speakers. Following a brief discussion, Mr. Livesey terminated consideration of the matter by securing acceptance of his view that that suggestion by the Council could not possibly be laid down as a rule. It was only in the nature of a very strong hint " to you, Sir (addressing the President), that you keep a very strong hold on speakers at our meetings." (Laughter.)

Professor Macqueen: " It might be extended to the dinner." (Laughter.)

Vote of Thanks to the Retiring Treasurer.

Mr. G. H. Livesey said that he rose with a certain amount of unhappiness and at the same time with a certain degree of pleasure, in asking them to join in passing a formal but none-the-less hearty vote of thanks to their retiring Treasurer for his services to the Society during the past 30 years. (Applause.)

It was all very well for them merely to thank Mr. Stroud as he went out of office, but he thought they should record on their books the gratitude they felt to him for all that he had done for the Society in the past. They must not forget how very active Mr. Stroud had been in the life of the Central Veterinary Society: there were many present who were not aware of what he had done in years gone by.

Some of them did not realize that Mr. Stroud was a most active Secretary to the Society; that his Presidential year was one of very great success. (Hear, hear.) Then, to crown his work, he took on the onerous duty of Treasurer, which he had held continuously ever since and with very marked success, as his balance sheets showed. They could not do more than thank him most heartily for all he had done for the Society, and hope that in future he would not sever his active connection with it. He hoped Mr. Stroud would continue to come amongst them regularly to let them see the ready smile which they had been so pleased to see for so many years past.

He desired to move: " That the thanks of the Society be recorded on our minutes for the excellent work that Mr. Stroud has done for the Society in the past."

Professor Macqueen, in seconding, said that Mr. Stroud, for the past 30 years, had filled one of the offices of the Society which could not be regarded as the most pleasant or congenial, and to have survived without any serious criticism for so long he thought redounded to his credit. (Hear, hear.) Mr. Stroud had made an excellent

Treasurer and he (the speaker) ought to say that, notwithstanding the difficulties of his office, he had retained his popularity, and that was saying a great deal in favour of a Treasurer. (Laughter.)

The President observed that he was sure that that proposition did not need putting to the meeting—(hear, hear)—but he should like to associate himself with the remarks that had fallen from Mr. Livesey and Professor Macqueen. He had known Mr. Stroud as long as anyone there: they lived in the same house for a time when they were students in London, and he had followed Mr. Stroud's career with great interest and pleasure ever since, and he did know that Mr. Stroud had been a great pillar of strength to that Society. (Applause.)

Mr. E. L. Stroud thanked the speakers very much indeed for the "more than flattering remarks" they had made about him. He did not know that he quite deserved them, although he had indeed done his best for the Society during the many years he had been connected with it.

It had always been a pleasure to work for the Central Veterinary Society, but the wise man knew when it was time to retire, and although he did not claim for himself any particular wisdom he thought it would be to the advantage of the Society if he stood on one side and let a younger and more up-to-date Fellow of the Society take his place: the latter would come in with new views and ideas. He himself was a little Victorian in his notions, but he had always taken a great interest in the Society and, he hoped, would continue to be associated with them on many occasions: his office as Trustee still left him some official connection with the Society.

It had been a great pleasure to him to know that he had had their confidence. He hoped he would not only retain the many friends he had made amongst them, but add to their number. (Applause.)

The proceedings concluded with the passing of a vote of thanks to Capt. Townson for his services as Hon. Secretary to the meeting.

J. F. Macdonald, *Hon. Secretary.*

Swine Order Test Case.

Whether the Swine Order of 1922 is intended to compel farmers to isolate pigs moved by licence or merely to separate them was tested at the Knaresborough Police Court recently, when Wilfrid Appleyard, Grange Farm, Boroughbridge, was charged with failing to isolate a number of pigs purchased at a Boroughbridge auction mart.

Evidence was given by the police that the pigs had been put into a foldyard, and were only separated from others by wire netting.

Mr. J. Butterworth (Harrogate), representing the defendant, suggested that the Order was not intended to compel farmers to isolate pigs moved by licence.

"It simply means," he said, "that the pigs should be kept separate from others in order that they are available for inspection, and if one develops disease it can be traced to the farm from which it came. Only once in the Order is the word isolate used, and then only in a heading. Throughout the word separate is used, and I submit that my client did separate his pigs."

The magistrates dismissed the case.

The Chairman (Colonel W. F. Collins) said they agreed unanimously that Mr. Appleyard did separate his pigs, and he hoped the attention of the Ministry would be drawn to the matter, so that the Order could be amended if it were intended that the pigs should be isolated.

Notes and News.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Oct. 20th.—Meeting of the Editorial Committee, N.V.M.A., at 2 Verulam Buildings, Gray's Inn, W.C.1, 4.30 p.m.

Oct. 21st.—Meeting of the North Midland Division, N.V.M.A., at Sheffield.

Oct 31st.—Meeting of the Yorkshire Division, N.V.M.A., at Leeds.

Nov. 6th.—Annual Dinner of the Central Division, N.V.M.A., Savoy Hotel.

Agricultural Research.

An order in Council directs that the Lord President of the Council, the Minister of Agriculture and Fisheries, the Home Secretary, the Secretary of State for Scotland and the President of the Board of Education respectively for the time being shall be a Committee of the Privy Council for the organisation and development of agricultural research.

It is also ordered that during his Majesty's pleasure the Lord President of the Council shall be the Chairman and the Minister of Agriculture and Fisheries Vice-Chairman of the Committee.

An Agricultural Research Council is being constituted to secure improved co-ordination and extension of agricultural research throughout the United Kingdom. In view of the great losses incurred through disease, among the first subjects to receive attention will be contagious abortion, tuberculosis and swine fever.

We await with interest the announcement of the names of the members of the veterinary profession who will be nominated to serve on the Council.

Personal.

Marriage.—Brundrit-Dobie.—October 9th, at the Presbyterian Church, Grange Road West, by the Rev. W. Millburn, M.A., Joseph Seddon, only son of Joseph Brundrit, M.I.Mech.E., and Mrs. Brundrit, of Prenton, to Bertha, elder daughter of Thos. Dobie, M.R.C.V.S., and the late Mrs. Dobie, of Claughton, Birkenhead.

* * * * *

Mr. N. P. Male's Serious Hunting Accident.—The sympathy of their many friends in the profession will be extended to Mr. and Mrs. G. P. Male and their son, Mr. N. P. Male, M.R.C.V.S., of Reading, in the serious accident which befel the last-named while riding with the South Berks Hunt on Friday of last week. We understand that his horse fell and threw him heavily, a comminuted fracture of the tibia and fibula resulting. Mr. Male is lying in a nursing home, and we are relieved to learn that he is progressing as favourably as can be expected in view of the nature of his injuries.

Obituary.

Holroyd.—At "Ballure," Cross Hill Road, Blackburn, on the 9th inst.—Jane, the beloved wife of Henry Holroyd, M.R.C.V.S., and dear mother of John Holroyd, F.R.C.V.S.

* * * * *

Sanderson, A. D., "Fernlea," Alnwick. Graduated December, 1917. Died October 9th, 1930. Age 40.

Mr. Sanderson came of an old and esteemed family, widely-known in the Alnwick district. Educated at Fettes, he proceeded to the Edinburgh College, where he was a popular figure in both the football and cricket teams. Mr. Sanderson served in the R.A.V.C. in Palestine, and was a retired Captain of the Northumberland Hussars (Territorial).

Death of Captain J. G. Deans, M.R.C.V.S.

"After only one week's illness Captain J. G. Deans, the well-known Durham County veterinary surgeon, died at his home, Park House, Windlestone, yesterday," says *The Northern Daily Mail* of October 4th. "A native of Hawick, Captain Deans went to Bishop Auckland as a young man, and commenced practice as veterinary surgeon in the town.

"He was well known in racing circles, and became connected with racing stables in a professional capacity. A keen steeplechase rider, he on one occasion in the North Durham point-to-point races rode three horses to victory in one day.

"On the outbreak of the Great War Captain Deans joined the Royal Army Veterinary Corps and opened a veterinary hospital at Ripon. This hospital subsequently became the chief operating station of the Northern Command.

"A boxing enthusiast, Captain Deans held the amateur light-weight championship of Scotland for six years.

"Deceased, who was 65 years of age, leaves a widow and one daughter."

The interment, with full military honours, took place at Bishop Auckland on October 7th, when the veterinary profession was represented by Mr. J. H. Taylor, President of the North of England Veterinary Medical Association; Mr. T. R. Jarvie, Gateshead; Mr. D. Dudgeon, of Sunderland; Mr. D. R. Callender, Darlington; Mr. A. C. Forbes, and Mr. Percy Snaith, Bishop Auckland.

A detachment of the 6th D.L.I., under Captain J. Johnston, fired three volleys at the graveside, and the "Last Post" was sounded. The graveside ceremony was conducted by Canon A. B. Parry-Evans and Rev. D. McW. Hamilton.

. . . .

The Late James Rowe, M.R.C.V.S., 1868-1930.

An Appreciation.

To a fellow-member of the Central Society it is an occasion for grief to think and know that we shall not have James Rowe's genial presence with us at any future meetings of the Society: we shall miss his old-time courtesy and his Victorian demeanour when some clinical or *post-mortem* subject was under discussion: his reminiscences were never wearisome, and the clarity of his expression of the scientific aspect of the minutest detail was in a great measure the reason for his prominent clinical position in the deliberations of the Central Veterinary Society.

As one of the founders of the "Central," our late colleague lived to remain a member for the span of sixty years, and we all remember that the highest honour of the Society—the Victory Gold Medal—was bestowed upon him at the annual dinner at the Trocadero Restaurant, London, on November 4th, 1926.

One can recall the affectionate presentation by the President, Major G. W. Dunkin, in which the latter recalled the facts connected with Mr. Rowe's intimate association with the Society, firstly as President, and then for the term of twelve years as Secretary.

In the domain of recreation James Rowe's feats of endurance on his bicycle for no less a period than 56 years, are noteworthy, from the era of the old "penny farthing boneshaker" right up to that of the "safety," with Dunlop covers, and one remembers how the old gentleman told us that his knowledge of France, Italy, Scotland and Wales was acquired during his life awheel; it is equally certain that his peregrinations by this means of transport kept his mind as virile as that of any man in the prime of life.

His love for the meetings of the "Central" should be an inspiration to those who do not belong to any division of the "National"—their apparent apathy towards the best interests of the profession is, indeed, not only a loss to the profession but to themselves.

Of James Rowe we may justly say *"Nihil tetigit quod non ornavit."*

H. L. R.

Testing of Humane Killers for Horses in Mines.

At mines where horses are employed, suitable appliances are required for destroying—as speedily and painlessly as possible—horses which are suffering incurably from disease or from serious injuries resulting from an accident. Several types of appliances—usually called humane horse killers—are obtainable for this purpose, but those types which involve the firing of a cartridge of explosive (similar to revolver ammunition), although they are in some respects among the best for the purpose, have not hitherto been permissible for destroying an injured horse below ground in mines where there may be risk of explosion. Only "Permitted" explosives may be taken into or used in such mines, and the ammunition used in these humane killers is not a "Permitted" explosive.

Recent tests made at the Mines Department Testing Station indicate that it is quite possible to make these appliances flameproof, and therefore safe for use even in mines where there may be risk of explosion. The Secretary for Mines has accordingly decided to provide facilities at the Mines Department Testing Station, Sheffield, for testing the safety of humane horse killers for use underground in mines, and to make an Order under Section 61 of the Coal Mines Act, 1911, to permit the use of humane killers involving the use of explosives which pass all the necessary safety tests. The terms of this Order are under consideration.

Army Veterinary Service.

London Gazette—War Office—Regular Army.

October 14th.—The following Lieutenants on probation to be Lieutenants (March 19th):—L. W. Coulden, J. V. Tevlin, R. K. Kent and A. A. Kidd.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

The Repatriation Departments in South Africa.

To the Editor of the Veterinary Record.

Sir,—I was interested in Dr. H. H. Curson's article in the *Record* for September 27th on the repatriation departments, etc., of South Africa during the years 1902-3, as I acted as one of the veterinary officers, together with those he mentioned in the Transvaal, having the district from Potchestroom along the Rand area as far as Springs.

The conditions from the point of view of the veterinary officer were unscientific and badly managed, the arrangement being that a lay person was responsible for the veterinary work and was given a veterinary officer to advise him and do it. If things went well the "kudos" went to the lay officer; if badly, he blamed the veterinarian.

I well remember testing animals for glanders, and that we were handed uncarbolised mallein from a foreign source, which produced abcesses on its own account.

Of course, contagious pleuro-pneumonia was present, and a rough-and-ready method for diagnosis was to chase mobs of cattle round in a ring and cut out those that coughed. Rinderpest was also prevalent.

Looking back now, it seemed almost a hopeless task. After some time I had to take up the position of insisting on a certain course of procedure or quitting, and I quitted.

Somehow or other things were muddled through, but only at the cost of a large sum of money.

Yours faithfully,

William S. Stevens.

c/o Glyn, Mills & Co.,
3, Whitehall Place,
London, S.W.1.

The Editor acknowledges the receipt of the following:

Communications from Mr. J. H. B. Best (Nigeria), Mr. H. T. Matthews (Liverpool) and Captain A. W. Noel Pillers (Liverpool).